



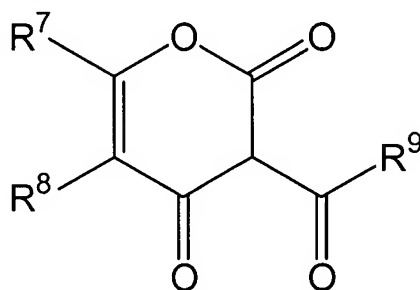
11. (Currently Amended) The personal care product composition of claim 1, wherein  $X^-$  is chloride or carbonate.

12. (Currently Amended) The personal care product composition of claim 11, wherein  $X^-$  is chloride.

13. (Currently Amended) The personal care product composition of claim 11, wherein  $X^-$  is carbonate.

14. (Currently Amended) The personal care product composition of claim 1, wherein the ketone acid is a cyclic ketone acid or a salt thereof.

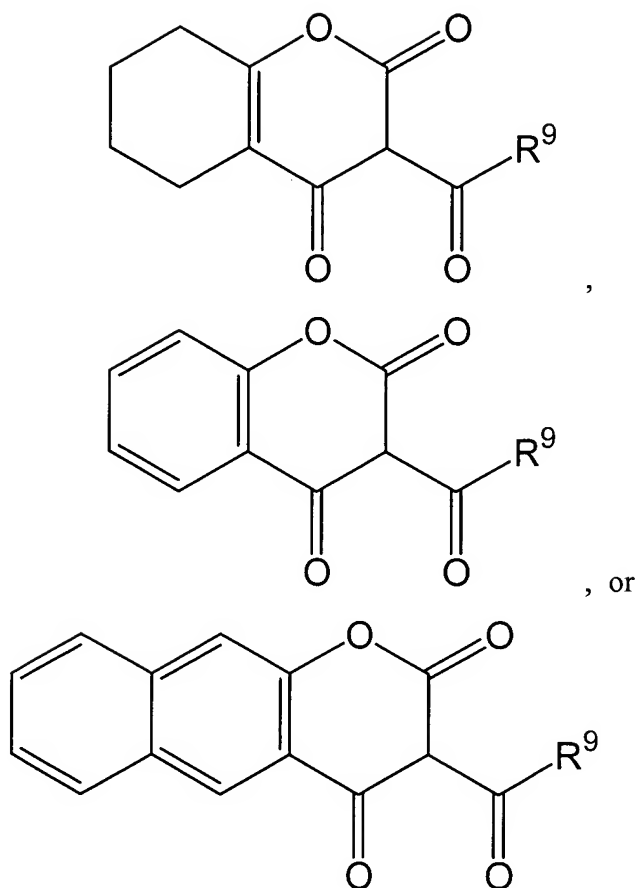
15. (Currently Amended) The personal care product composition of claim 14, wherein the cyclic ketone acid has the formula



wherein  $R^7$ ,  $R^8$ , and  $R^9$  are independently  $C_1$ - $C_{10}$  alkyl,  $C_1$ - $C_{10}$  alkenyl,  $C_1$ - $C_{10}$  alkenyl, aryl, aryl substituted with halogen, or  $(C_1$ - $C_{10}$  alkyl)aryl.

16. (Currently Amended) The personal care product composition of claim 15, wherein  $R^7$ ,  $R^8$ , and  $R^9$  are independently  $C_1$ - $C_4$  alkyl; or  $R^7$  and  $R^8$  form a 5-12 member ring.

17. (Currently Amended) The personal care product composition of claim 15, wherein the cyclic ketone acid has the formula



18. (Currently Amended) The personal care product composition of claim 14, wherein the ketone acid is dehydroacetic acid or a salt thereof.

19. (Currently Amended) The personal care product composition of claim 1, wherein the ketone acid is sodium dehydroacetate.

20. (Currently Amended) The personal care product composition of claim 1, wherein the ketone acid is encapsulated.

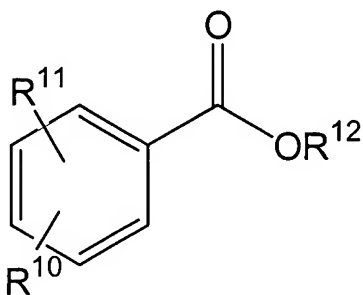
21. (Currently Amended) The personal care product composition of claim 18, wherein the dehydroacetic acid or salt thereof is encapsulated in cyclodextrin.

22. (Currently Amended) The personal care product composition of claim 1, wherein the quaternary ammonium biocide is benzethonium chloride and the ketone acid is dehydroacetic acid or a salt thereof.

Claim 23 (canceled).

24. (Currently Amended) The personal care product composition of claim 182, wherein the aromatic carboxylic acid is benzoic acid, derivative thereof, or salt thereof.

25. (Currently Amended) The personal care product composition of claim 182, wherein the aromatic carboxylic acid has the formula



wherein R<sup>10</sup> and R<sup>11</sup> are independently H, -OH, or -OC(O)CH<sub>3</sub>; and R<sup>12</sup> is H, Na, K, Ca, or Mg.

26. (Currently Amended) The personal care product composition of claim 182, wherein the aromatic carboxylic acid is a hydroxy benzoic acid, derivative thereof, or salt thereof.

27. (Currently Amended) The personal care product composition of claim 26, wherein the hydroxy benzoic acid is salicylic acid or a salt thereof.

28. (Currently Amended) The personal care product composition of claim 27, wherein the salt of salicylic acid is sodium salicylate.



quatarnary ammonium biocide, based upon 100% weight of total composition.

38. (Currently Amended) The personal care product composition of claim 37, wherein said composition comprises from about 0.0005 to about 0.35% by weight of ketone acid and from about 0.0005 to about 0.2% by weight of quatarnary ammonium biocide, based upon 100% weight of total composition.

39. (Currently Amended) The personal care product composition of claim ~~182~~, wherein the weight ratio of the aromatic carboxylic acid to the quatarnary ammonium biocide ranges from about 0.00056:1 to about 1990:1.

40. (Currently Amended) The personal care product composition of claim 39, wherein the weight ratio of the aromatic carboxylic acid to the quatarnary ammonium biocide ranges from about 0.0056:1 to about 1400:1.

41. (Currently Amended) The personal care product composition of claim ~~182~~, wherein said composition comprises from about 0.00005 to about 0.5% by weight of aromatic carboxylic acid and from about 0.00005 to about 0.45% by weight of quatarnary ammonium biocide, based upon 100% weight of total composition.

42. (Currently Amended) The personal care product composition of claim 41, wherein said composition comprises from about 0.0005 to about 0.35% by weight of aromatic carboxylic acid and from about 0.0005 to about 0.2% by weight of quatarnary ammonium biocide, based upon 100% weight of total composition.

43. (Currently Amended) ~~An antimicrobial composition~~ A personal care product comprising a preservative system, the preservative system comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof; and
- (b) benzethonium chloride.

Claims 44-45. (Canceled)

46. (Currently Amended) A preservative system ~~formulation~~ comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof;
- (b) a benzethonium salt; and
- (c) salicylic acid or a salt thereof.

47. (Currently Amended) A preservative formulation comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof;
- (b) a benzethonium salt;
- (c) salicylic acid or a salt thereof[[]];
- (d) benzoic acid or a salt thereof;
- (e) phenoxyethanol; and
- (f) benzyl alcohol.

48. (Original) The preservative formulation of claim 47 comprising:

- (a) from about 5 to about 40% by weight of dehydroacetic acid;
  - (b) from about 1 to about 20% by weight of benzethonium chloride;
  - (c) from about 2.5 to about 20% by weight of salicylic acid;
  - (d) from about 2.5 to about 20% by weight of benzoic acid;
  - (e) from about 20 to about 50% by weight of phenoxyethanol; and
  - (f) from about 5 to about 50% by weight of benzyl alcohol,
- based upon 100% total weight of preservative formulation.

49. (Original) The preservative formulation of claim 48 comprising:

- (a) about 10% by weight of dehydroacetic acid;
- (b) about 5% by weight of benzethonium chloride;
- (c) about 10% by weight of salicylic acid;
- (d) about 10% by weight of benzoic acid;
- (e) about 35% by weight of phenoxyethanol; and
- (f) about 30% by weight of benzyl alcohol,

based upon 100% total weight of preservative formulation.

50. (Original) A composition comprising from about 0.01 to about 2% by weight of the preservative composition of claim 48.

51. (Currently Amended) A personal care product comprising a preservative system formulation, the preservative system comprising a synergistic mixture of:

- (a) a benzethonium salt; and
- (b) ~~at least one of~~
  - (i) ~~dehydroacetic acid or a salt thereof, and~~
  - (ii) ~~salicylic acid or a salt thereof.~~

52. (New) The personal care product of claim 51, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

53. (New) The personal care product of claim 52, wherein the personal care product is a shampoo.

54. (New) The personal care product of claim 52, wherein the personal care product is a conditioner.

55. (New) The personal care product of claim 52, wherein the personal care product is a soap.







